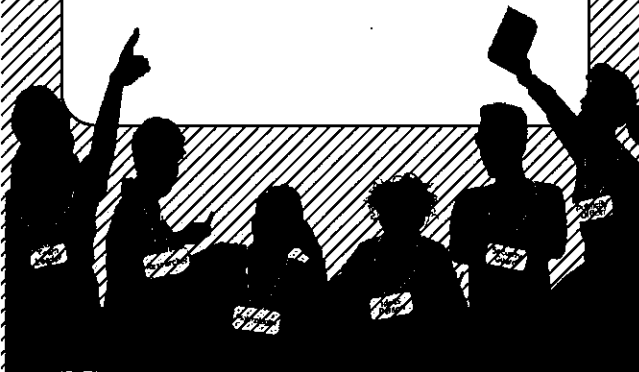


Student & Teacher Background Notes: The Thinking Team

You are part of a team of professionals whose job is to enter any situation, to tackle any problem, to design any solution, by working as a team to produce a variety of different answers. Throughout this program, you will be taking on different "roles" in this team, where you will learn to think in different ways. Although you will gather your thoughts and ideas alone at times, you will have the opportunity to meet with your team and share your ideas.



Team Leader

Every team needs someone to bring them all together. Your job is to:

- Make sure that everyone is doing their job and has their say;
- Find out what holds your ideas together;
- Manage and coordinate your team's thinking;

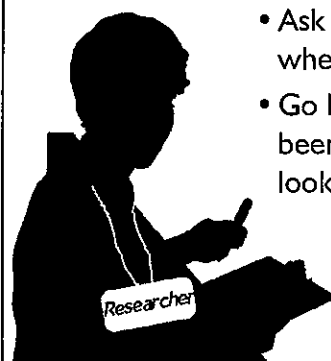


- Summarise and overview information;
- Follow the guidelines to create a stable team (identify the rules / criteria).

Researcher

Your job is to find out what is known and what needs to be known. Focus on the facts and research information on your task or project.

- Do some research for the "groundwork";
- Create the foundation of your project or task;
- Look at the facts – not the opinions;
- What is known – what do you know? What do others know?
- What needs to be known?



- Ask "who?, what?, where?, when?, why?"
- Go back to what has been done before and look at historical trends.

Ideas Person

Look in as many directions as you can to find different outcomes and solutions. Take a risk – be creative and see how many ideas you can find. Remember that the ideas that may be tricky to start with might lead to the best result.

- Be creative – use different ideas to promote growth of your ideas;
- Is your idea going nowhere? Start back and take a new direction;
- One idea can lead to many others – build on what you are thinking;
- Ask yourself "Is there another way?";
- You can see the problem differently if you look at it in different ways;
- Sometimes even the strangest ideas are possible!



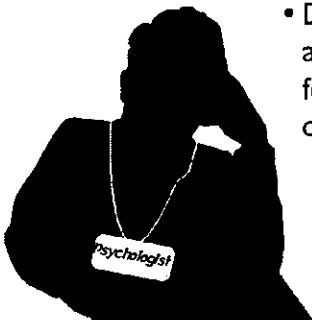
Student & Teacher Background Notes: The Thinking Team

Psychologist

Psychologists look at how people are feeling and reacting. They don't ask for reasons – they just listen to what others are saying. They are good with their “hunches” about things.

- How do you feel about what is being done?
- How will others feel?
- Do you have any “hunches” or “gut feelings” about the best and worst outcomes?
- How will you help people respond well to the ideas?

- Don't expect people to always know WHY they feel something about a certain idea.



Security Guard

Some ideas involve certain risks – it is your job to identify what these potential problems are. Can you look for other ways that will be less risky or try and prevent the problems from occurring?

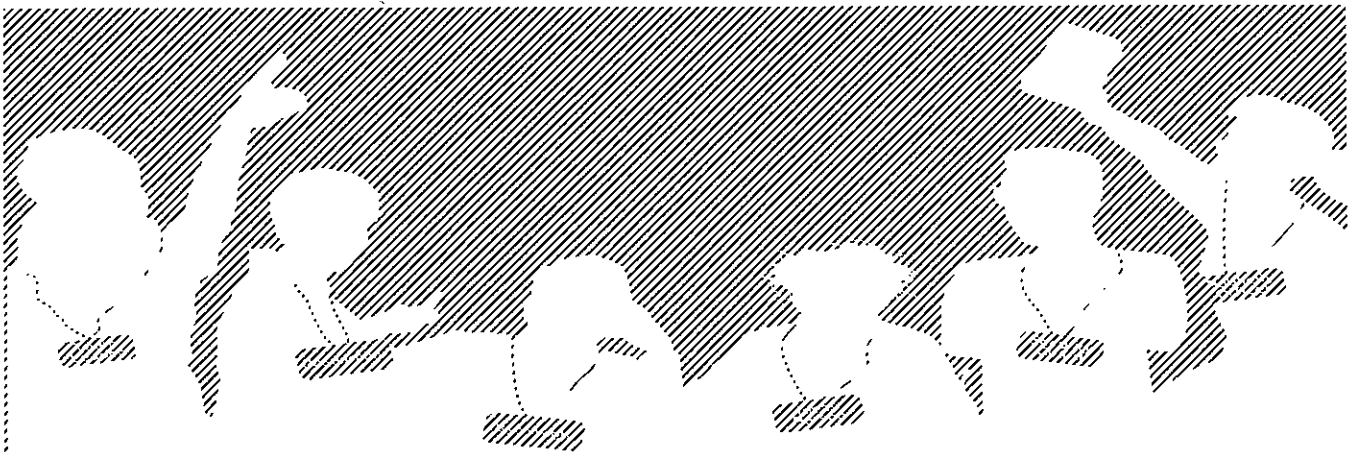
- What are the “holes” or potential risks in the ideas?
- What might make things collapse or go wrong?
- Is there a way around the problem?



Publicity Officer

How can you promote the ideas to the public? Be positive and look for the best possible outcomes!

- What are the positives and best potential outcomes?
- Be patient – positive outcomes may take time to generate;
- What opportunities are being created?
- Who will benefit? How?
- What will you do with the good results?
- Dream about the best possible outcome you can think of!





Student Assessment Checklist

Student Name: _____ Date _____

Fill this checklist out and hand in to your teacher or the "Team Leader".

TICK THE BOXES TO SHOW WHICH ACTIVITY YOU HAVE COMPLETED:		
TOPIC	ROLE	LEVEL
Energy Efficient Environments <input type="checkbox"/>	Team Leader <input type="checkbox"/>	Think Tank <input type="checkbox"/>
Enviro-friendly Transport <input type="checkbox"/>	Researcher <input type="checkbox"/>	
Animal Conservation <input type="checkbox"/>	Ideas Person <input type="checkbox"/>	Research Station <input type="checkbox"/>
Water-wise Communities <input type="checkbox"/>	Psychologist <input type="checkbox"/>	
Reuse, Reduce & Recycle <input type="checkbox"/>	Security Guard <input type="checkbox"/>	Act Now <input type="checkbox"/>
Farming For the Future <input type="checkbox"/>	Publicity Officer <input type="checkbox"/>	

1) What were you asked to do for this activity?

2) Rate your overall performance for this activity by circling a number on the scale:

1	2	3	4	5	6	7	8	9	10
Needed further work			Developing Well				Excellent		

3) Write a comment about what you did well:

4) Write a comment about what you could have improved on:

5) What did you enjoy most about this activity?

6) What was most challenging about this activity?

Design a sticker or a stamp here
that sums up your performance:

Many of the answers to global pollution issues need to be addressed with wide-scale responses, such as reducing logging, changing industrial practices and modifying waste management. Scientists are looking at cleaner fuels, more efficient devices and smarter systems to minimise the pollutants that clog our land, sea and air. Much of our waste is non-biodegradable, so once it is dumped, it can remain on the land for tens or hundreds of years. Some waste is hazardous to our health, such as chemical products or broken glass, and other items, such as plastic bags are a threat to our marine life as they are swallowed or tangled in the limbs of innocent sea creatures.

Many people think that pollution is "not their problem", or refer to the old excuse "How can one person make a difference?" There are three little words that can answer that challenge. REUSE, REDUCE and RECYCLE. These are three things that everyone can do in their own homes, in the workplace or at school, and even if one person thinks they are not making a difference, the combined effect of many people carrying out one small action can lead to a big change for a better, cleaner environment. So what is actually involved in the "Three Rs?"

Reusing is something that many people do without even thinking about it. This concept basically involves using something again either for the same purpose, such as giving "hand me down" clothes to a younger sibling, or using for a slightly different purpose, such as using a glass jam jar to wash paintbrushes in the art room. The ideas are endless and not only reduce the waste of throwing things out, it's a great way to save money, too, for example swapping books at a book exchange.

Here are a few ways to reuse to get you started: Saving plastic shopping bags and using them to store items at home; using an ice-cream bucket as a drink bowl for a pet; using scrap paper to take notes or make draft plans; donating old magazines to medical centres; donating clothes and old furniture to charity; and saving and reusing boxes and packaging. All you need to do to see the potential for reusing items is to visit your local flea market or swap-meet, where you will find out that one person's trash is another's treasure.

One of the more popular ways that schools reuse is when people donate scrap materials to schools for art and technology projects. Almost anything is welcome as waste materials become the next exciting student innovation.

Reducing may take a little longer to get used to, but the rewards are worth it. Thinking carefully about ways to minimise the amount of waste that is being put into the environment can result in simple ways to limit the leftovers.

Ways to reduce waste include: Editing work on the screen before printing, using both sides of the paper when writing; using plastic plates instead of disposable ones at picnics, reducing the number of shopping bags used or using material bags instead; buying things without excess packaging; putting a "No Junk Mail" sign on your mail box; using refill bottles with products such as laundry detergent or cosmetics; using environmentally safe cleaning products; and reducing the amount of water or electricity used in the home. You may already know that these last two ideas are covered in more detail as separate topics in this book.

Recycling is the process of breaking materials down so that they can be made into the same or a similar product. Materials that can be recycled include office paper, newspaper, plastic bottles, glass, aluminium cans, cards, magazines and many more.

People can contribute to recycling processes by using recycling bins responsibly or taking time to drop items off at designated recycling depots, as well as purchasing new items, such as paper, glass and toilet tissue which have been made from recycled goods. In the garden, you can recycle vegies as compost and give your flowers a healthy boost.

Everyone can help the earth with a little bit of effort and imagination, so get RRR-easy to introduce the Three Rs into your daily life and know that you ARE making a difference!

- ▶ www.olliesworld.com
- ▶ www.leeric.lsu.edu/energy/rrr
- ▶ www.recyclingnearyou.com.au

The sheer size of Australia means that getting from A to B cannot always be as simple as putting on your walking shoes. Most Australians will own a car at some stage in their lives, and along with the increase of our population comes expansion of our cities and increase of vehicles on the roads.

Using fuel from non-renewable sources produces harmful gases that damage our environment. Gases that are produced include carbon dioxide, carbon monoxide, nitrogen oxides and hydrocarbons. These gases are increasing the greenhouse effect, which raises the risk of global warming and damaging change to our climate. The pollution in our air reduces the effectiveness of plant photosynthesis (a natural oxygen source). The gases are also harmful to our health, with links being made to cancer, birth defects and breathing problems.

Fuel quality is continually developed as a way of reducing environmental damage. Many cars now use unleaded fuels that have cleaner "high octane" formulas. Older cars emit more pollutants, however "lead replacement fuel" has been developed so that these cars can operate with a more refined type of fuel that reduces pollution. Low sulphur diesel is another clean fuel that is used. LPG (Liquid Petroleum Gas) is one of the most environmentally-friendly fuels used at present. It is not only cleaner, but it is cheaper and better for the vehicle's engine. Special engine conversion is required so that the vehicle can use LPG.

Drivers can reduce environmental impact by avoiding stop-start traffic (which is where cars emit most of the harmful gases), getting their car tuned so that the consumption of fuel is improved and limiting the excess weight in their car, which requires more fuel to be used. One of the best ways to reduce the impact of cars on the environment is to share transport (such as car-pooling).

Solar powered cars have been used for special races and events, and inventors are always working on improved designs. Solar powered cars use energy from solar panels to either power an electric motor directly or charge a battery that powers the car. The amount of solar energy

collected from the panels is small and at the moment, solar powered cars do not have the power or endurance to be effective on the roads for the everyday citizen. However, the possibilities available give some hope for future inspirations.

There is a massive push to reduce the need for using cars at all. Many people can manage very well by walking or cycling to destinations that are close by. Not only are these modes of transportation free, they are also good for you. The benefits of increasing physical activity include improved cardiovascular systems and reduced risk of obesity, diabetes, osteoporosis and depression.

In this "busy age", many people make excuses for not walking – but there are ways around some of the time constraints or concerns that we have. The recommended 30 minutes of exercise can easily be achieved by walking to school or the shops, for example. An incentive developed to encourage students walking to school is the "Walking School Bus", where parent "drivers" walk along a safe route and "pick up" students on the way to school. This removes the concern that many parents have about "stranger danger".

People are encouraged to modify their habits that would normally require a lot of travel. For example, by shopping locally rather than travelling to larger centres, people can support local businesses and reduce the hassles of time-consuming travel, hectic parking lots and melting ice-cream. Others who have a long way to travel to work can sometimes work from home using the telephone and email services to communicate when necessary.

The use of public transport can often get people to their destinations faster and cheaper, avoiding peak-hour traffic and the cost of fuel and parking. Public transport can be a relaxing and interesting way to travel, giving the traveller a chance to read the morning paper while angry drivers caught in traffic jams can be seen through the train window.

As you can see, there are many ways that we can protect our environment, simply by putting a bit more thought into the way that we travel.

► www.deh.gov.au/atmosphere/cleaner-fuels/index.html